CODE ANALYSIS

			Year				Year					
	nternational Building Co		2006 2006		nal Electrical Co	ode	2005					
	nternational Mechanica nternational Plumbing (2006		rm Code for ng Conservatio	n						
In	nternational Fire Code		2006	ADA .	Accessibility							
1	nternational Energy Conservation Code		2006	Guilde 	elines							
L	Occupancy and Grou	ıp:			EXISTING							
,	Change in Use: Yes	•	_		cupancy: Yes _		No					
	Special Use and Occ											
B.	Seismic Design Cate	gory: _	D	Design W	ind Speed:	<u>90 </u>	h					
C.	Type of Construction	•										
	$\frac{\mathbf{I}}{A}$ $\frac{\mathbf{I}}{B}$	A	$\left(\frac{\mathbb{I}}{\mathbb{B}}\right)$	<u>Ш</u> <u>Ш</u> В	HT A	<u> </u>	<u>V</u> B					
D.	Fire Resistance Ratio	•	•	s for the Exte	erior Walls base	ed on the	e fire					
	separation distance	•	•	\	L .							
	North: Sout	1	Easi	wes	l							
E.	Mixed Occupancies:		No	nseparated l	Jses:							
F:	Sprinklers:											
	Required:	Provid	led:	_ Type of S	prinkler System	1:						
G:	Number of Stories:		_ Building	Height:								
H:	Actual Area per Flo											
l:	Tabular Area:											
J:	Area Modifications:	7 -	7		г	7						
	a) $A_a = A_t + \left[\frac{A_t I_1}{100} \right]$	$\begin{bmatrix} - \\ - \end{bmatrix} + \begin{bmatrix} A \\ 1 \end{bmatrix}$	$\begin{bmatrix} \frac{1}{1} & \frac{1}{1} \\ 00 \end{bmatrix}$	I _f = 1	$100\left[\frac{F}{P}-0.\right]$	$25 \left \frac{W}{30} \right $)					
	b) Sum of the Ratio	Calcul	lations for I	Mixed Occup	ancies:							
	Actual Area			г								
	Allowable Area	≤ 1										
	c) Total Allowable	Area for	·:									
	1) One Story:											
	2) Two Story:	A _a (2)_										
	3) Three Story:	$A_a(3)$)									
	d) Unlimited Area E	Building	: Yes	No _	Code S	Section:						
K.	Fire Resistance Rat	ing Red	quirements	for Building	Elements (hour	s).						
Fle	ement	Hours	Assembly	Element		Hours	Assem					
		Tiouis	Listing		ing Floors	Tiouis	Listin					
Int	terior Bearing Walls erior Bearing Walls			Floors - Ceil Roofs - Ceili	ing Roofs							
	terior Non-Bearing Walls ructural Frame			Exterior Doo Shaft Enclose	ors and Windows sures							
Pa	artitions - Permanent re Barriers			Fire Walls Fire Partition								
ГІІ	e barriers			Smoke Part								
L.	Design Occupant Loa	ad:										
	Exit Width Required:		E	Exit Width Pro	ovided:	_						
M.	Minimum Number of a) Water Closets -	•			Provided (m	1)	(f)					
	b) Lavatories - Re											
	c) Bath Tubs or Sh	owers:										
	d) Drinking Fountai	ns:	S	ervice Sinks:	:							
FOC	OTNOTES:											
	In case of conflict with	the U.S	S. Departm	ent of Justic	e Federal Regis	sters Pa	rts I					
,	through ∑ - ADA Guid Code Accessibility Cha	elines a	and specific	c reference to	o the Internation	nal Build	ling					
	·											
,	Additional Code Inform Official for Complex But		•			e Buildir	ng					
	a) High Rise Requirements.b) Atriums.											
	b) Atriums.											
	b) Atriums.c) Performance Ba	sed Cri	teria.									
	b) Atriums.	sed Cri s Analy:	teria. sis.									

g) Fire Stopping, Including Tested Design Number.

UTAH DEPARTMENT OF TRANSPORTATION CALVIN RAMPTON BLDG CAFETERIA ROOFTOP HVAC UNIT REPLACEMENT DFCM PROJECT #07237900



State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018



DRAWING INDEX:

M000 TITLE SHEET

M001 MECHANICAL GENERAL NOTES AND LEGEND

MD101 MECHANICAL DEMOLITION PLAN

ME101 MECHANICAL ROOF PLAN

ME601 MECHANICAL SCHEDULES AND DETAILS

MECHANICAL ENGINEER
WHW ENGINEERING, INC.
1354 EAST 3300 SOUTH
SUITE 200

SALT LAKE CITY, UTAH 84106 PHONE: (801) 466-4021 FAX: (801) 466-8536



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				٨	MECHANICAL LEGEND			
SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION
		GENERAL TERMINOLOGY		•	AIR SIDE		•	WET SIDE
A		SECTION LETTER DESIGNATION	⊬→ ₹ ∄		EXISTING AIR DUCT TO BE REMOVED			UNION
ME-101		- SECTION DRAWN ON THIS SHEET	_\\ \ <u>_</u>		EXISTING AIR DUCT TO REMAIN	Г		MANUAL ACTUATOR (BALL,
(A2)		- DETAIL NUMBER DESIGNATION	₩ 🖽		NEW AIR DUCT			BUTTERFLY, NEEDLE, ETC. VALVES)
(A2)		CORRESPONDING WITH GRID LOCATION	万草		RECT. TO RECT. AIR DUCT TAKE-OFF	Т		MANUAL ACTUATOR (GATE, GLOBE,
AH		MECHANICAL EQUIPMENT DESIGNATION	7 4		RECT. TO RND. AIR DUCT TAKE-OFF			S&D, OS&Y, ETC. VALVES)
1		- EQUIPMENT ITEM DESIGNATION	江草		RND. TO RND. AIR DUCT TAKE-OFF	O		ELBOW UP
D-1		REGISTER, GRILL OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED	\ _		RECT. TAKE-OFF AT END OF MAIN	C		ELBOW DOWN
CFM		BELOW			LINED DUCT			TEE UP
R-1		GRILLE, OR LOUVER DESIGNATION WHERE			VANED ELBOW			TEE DOWN
K-1		BALANCING NOT REQUIRE			CONCENTRIC DUCT TRANSITION			EXISTING PIPING TO BE REMOVED
À		REVISION DESIGNATOR AND NUMBER			ECCENTRIC DUCT TRANSITION			EXISTING PIPING TO REMAIN
1		KEY NOTE DESIGNATOR AND NUMBER	₩		FLEXIBLE AIR DUCT			NEW PIPING
•	POC	POINT OF CONNECTION	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		VOLUME DAMPER			PIPE CAP OR PLUG
$\overline{\bullet}$	POR	POINT OF REMOVAL	Ø		SUPPLY AIR DIFFUSER			CONCENTRIC REDUCER
AFF		ABOVE FINISHED FLOOR	Q		RETURN AIR, FRESH AIR, AND TRANSFER AIR			ECCENTRIC REDUCER
AP		ACCESS PANEL	Ø		CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE			EXPANSION JOINT
ĢEL.		CENTER LINE ELEVATION			RETURN OR OUTSIDE AIR DUCT UP			FLEXIBLE CONNECTION
NV. ELEV.		INVERT ELEVATION			SUPPLY DUCT UP	\rightarrow		ANCHOR POINT
GC		GENERAL CONTRACTOR			EXHAUST AIR INTAKE UP	—HWS—		HEATING WATER SUPPLY
MC		MECHANICAL CONTRACTOR			RETURN OR OUTSIDE AIR DUCT DOWN	—HWR—		HEATING WATER RETURN
					SUPPLY DUCT DOWN	—DR—		EQUIPMENT DRAIN
					EXHAUST DUCT DOWN			
					ROUND DUCT UP			
			H (17)		LOWER DUCT DOWN			
					FLEXIBLE DUCT CONNECTION			
					FILTER BANK			
					COIL			
				AP	ACCESS PANEL			
			L _ J		EXISTING EQUIPMENT TO BE REMOVED			
					EXISTING EQUIPMENT TO REMAIN			
					NEW EQUIPMENT			
			SA		SUPPLY AIR			
				I T				

RETURN AIR

EXHAUST AIR

OUTSIDE AIR

MIXED AIR

FRESH AIR

RELIEF AIR

EA

OA

FA

RF

GENERAL NOTES:

MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. ARCHITECT SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.

THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.

THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA

PROVIDE TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCT.

THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED **EQUIPMENT AND CONTROLS.**

C.F.M. LISTED IS ACTUAL AIR.

SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.

CONTRACTOR SHALL CONTRACT WITH A DESIGN BUILD ELECTRICAL CONTRACTOR TO PROVIDE THE DESIGN AND INSTALLATION OF THE ELECTRICAL PORTION OF THIS PROJECT. THIS INCLUDES RECONNECTION OF THE NEW ROOFTOP UNIT

State of Utah Department of Administrative Services



Internet: http://www.dfcm.state.ut.us

CONSULTANTS



WHW ENGINEERING INC. ROFESSIONAL MECHANICAL ENGINEERING 1354 East 3300 South Suite 200 SALT LAKE CITY, UTAH 84106 (801)466-4021, FAX 466-8536 EMAIL: excellence@whw-engineering.com

PROJECT NAME & ADDRESS

UTAH DEPARTMENT OF TRANSPORTATION **CALVIN RAMPTON BLDG CAFETERIA ROOFTOP HVAC UNIT** REPLACEMENT **DFCM No. 07237900**

4500 So. 2700 W.

MARK	DATE	REVISION

PROJECT MANAGER: WP DRAWN BY: STAFF CHECKED BY: SLW

10/02/2007 WHW JOB NO.: 07035

SHEET TITLE

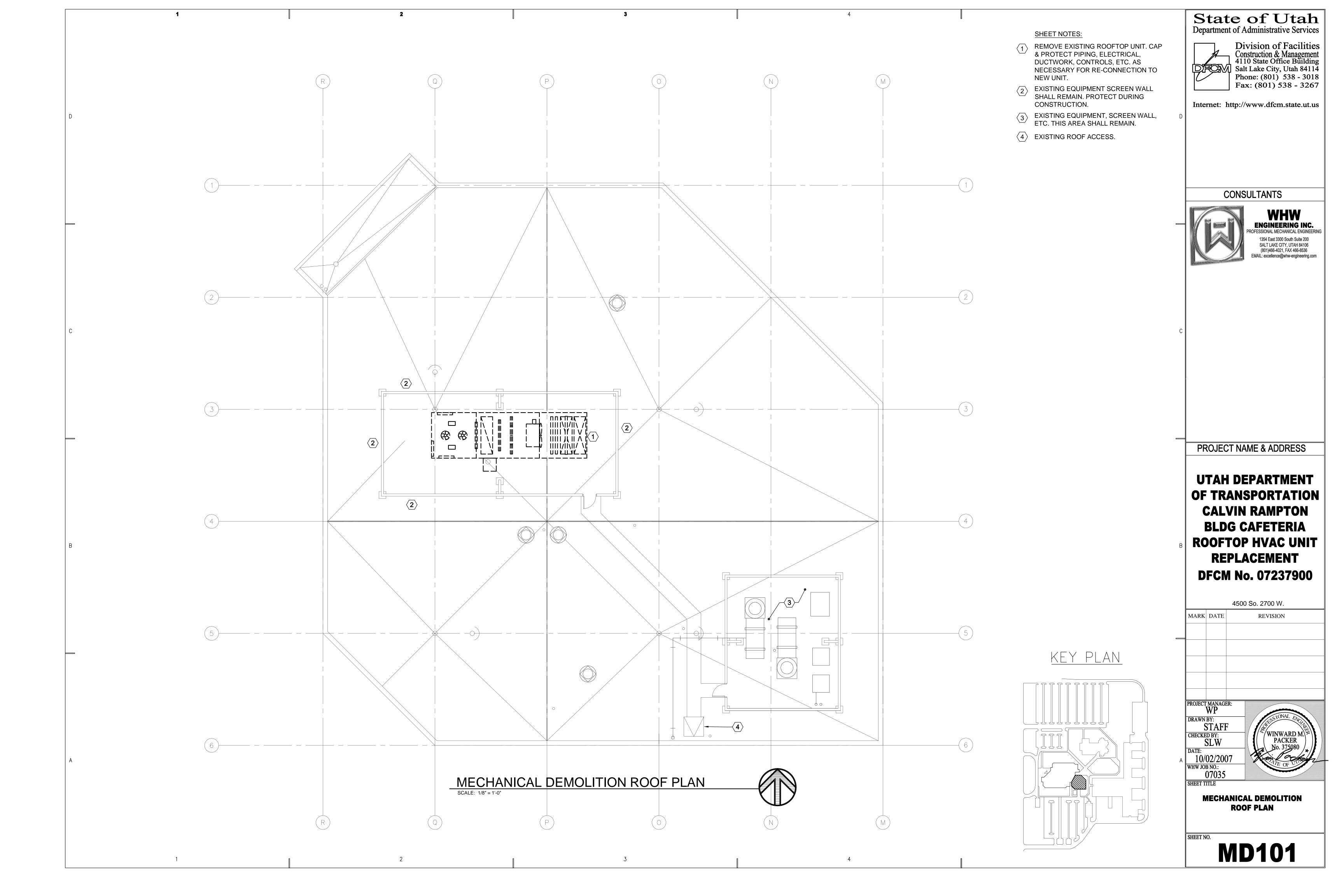
MECHANICAL GENERAL NOTES AND LEGENDS

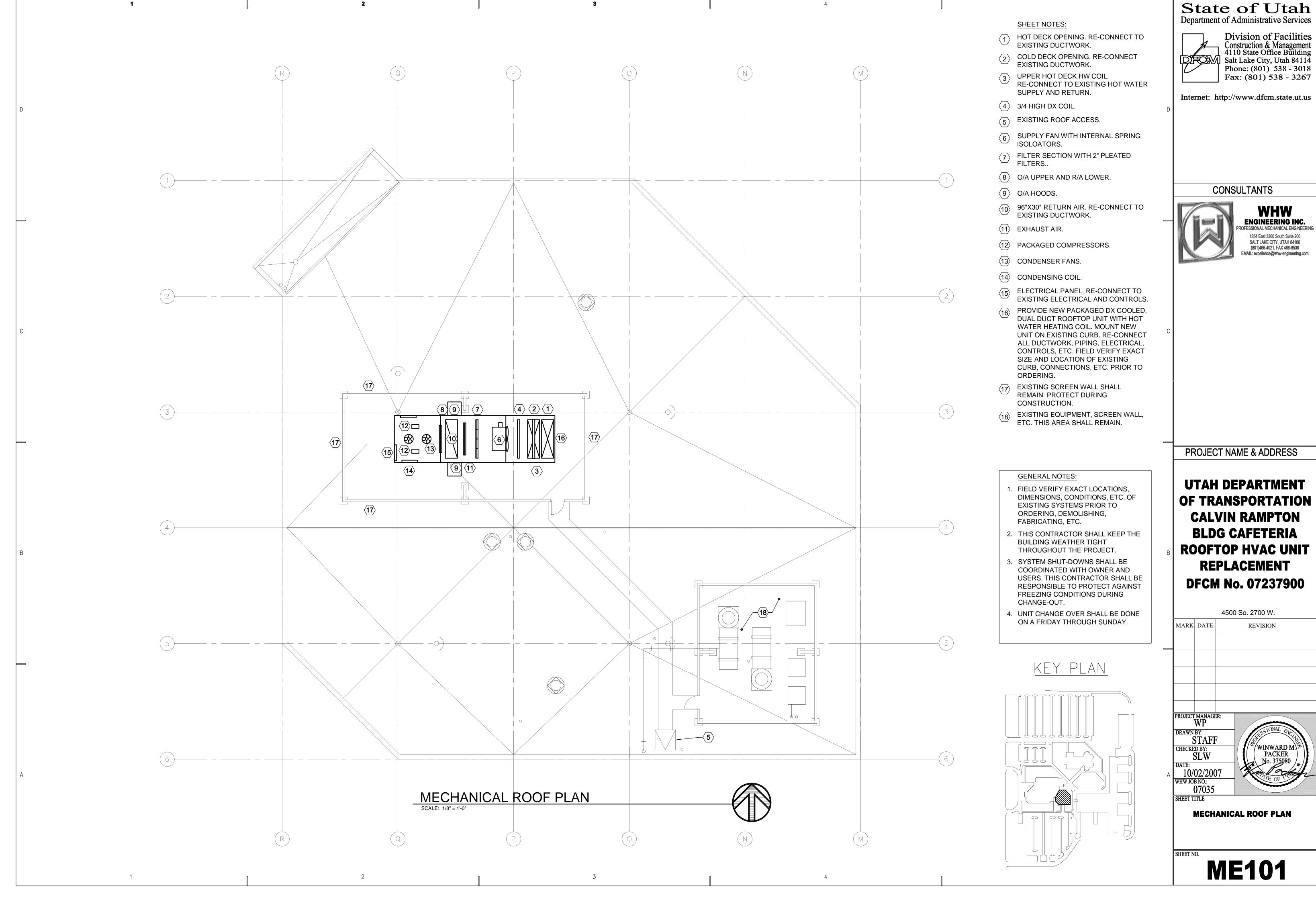
/WINWARD M

PACKER

SHEET NO.

M001





State of Utah

Phone: (801) 538 - 3018 Fax: (801) 538 - 3267

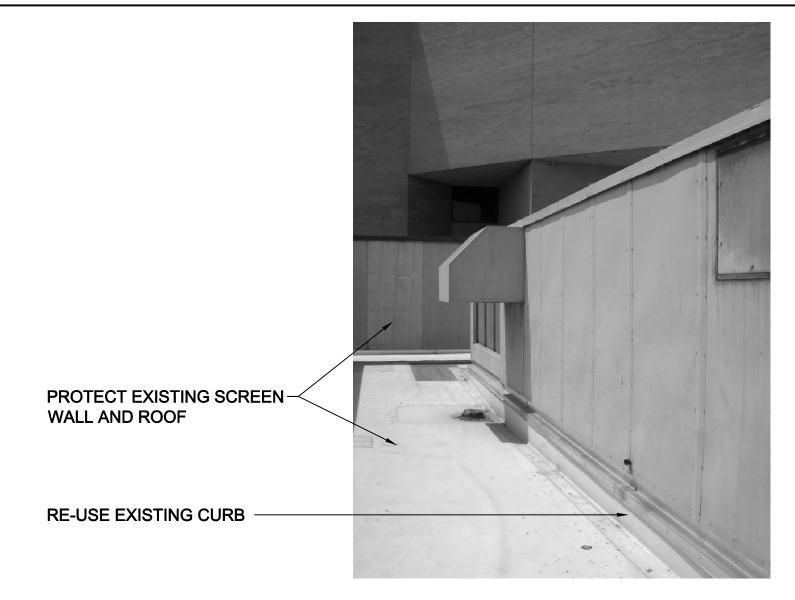
ENGINEERING INC. ROFESSIONAL MECHANICAL ENGINEERING 1354 East 3300 South Suite 200 SALT LAKE CITY, UTAH 84106 (801)466-4021, FAX 466-8536

UTAH DEPARTMENT OF TRANSPORTATION CALVIN RAMPTON BLDG CAFETERIA ROOFTOP HVAC UNIT

AIR HANDLER SCHEDULE

SYI		MANUFACTURER & MODEL NUMBER				HOT WA	ATER H	EATING	G COIL		[DX COOLING	ì				ELECTRICA	L	EER/ SO	SCHEDULE			
	SYMBOL		SA CFM OSA CFM	ESP	TOT. MIN. INPUT BTUH	GРM	EDB	LDB	WATER INLET TEMP	WATER OUTLET TEMP	AMB. AIR (DB)	AMB. AIR (WB)	MIN. TOTAL BTUH	V - Ø - Hz	SUPPLY FAN HP	RELIEF/EXHAUST FAN HP	COMPRESSOR #	COMPRESSOR RLA	COMPRESSOR LRA	MCA	МОСР	IPLV	NOTES
	RTU 1	GOVERNAIR TL5025	18900 4,000	3"	292,900	39	54.4°	90°	104°	89°	82.4°	63°	654,885	408/3/60	35	25	2	58/40	283 214			10.0/ 10.4	1,2,3,4

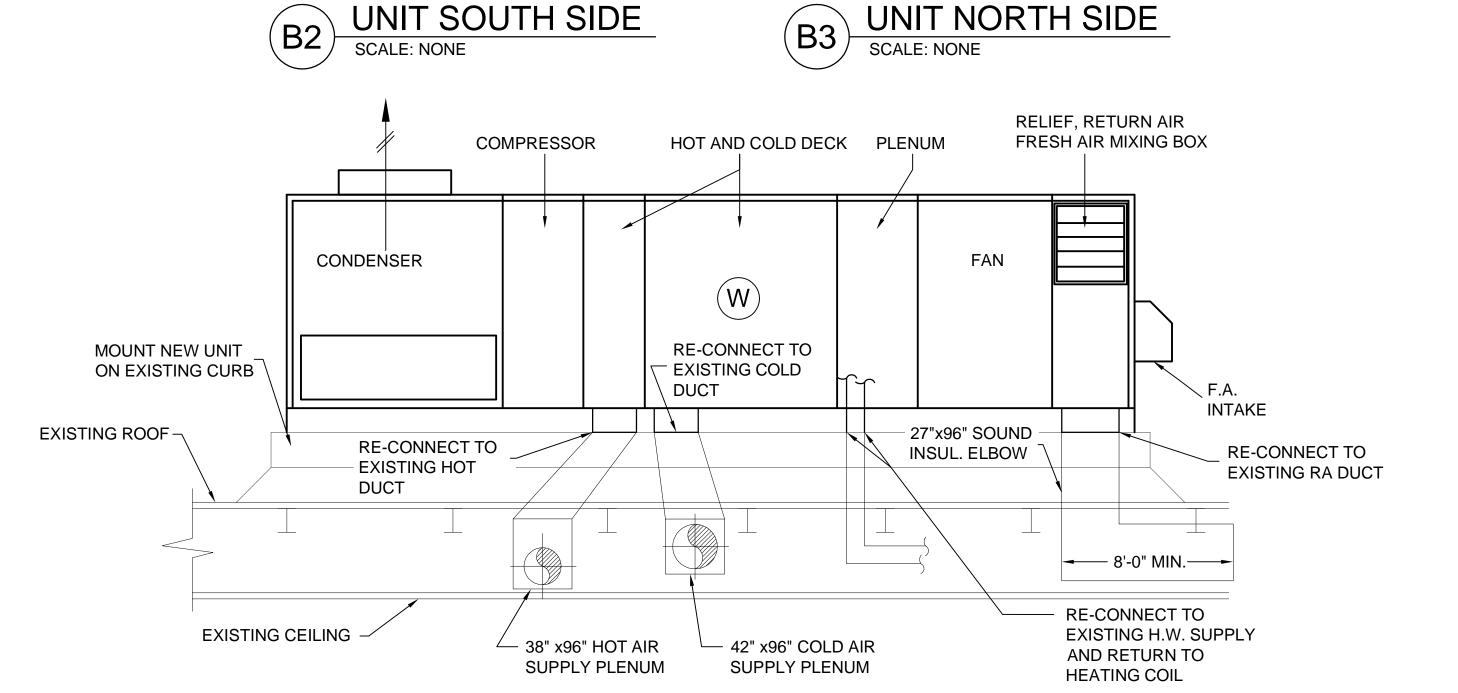
- 1. PROVIDE WITH UNIT CONTROLS FOR INTEGRATION INTO EXISTING BAS.
- 2. UNIT EFFICIENCIES MUST BE DOCUMENTED IN ACCORDANCE WITH ARI STANDARDS, AND ROCKY MOUNTAIN POWER ENERGY INCENTIVE REQUIREMENTS.
- 3. UNIT MUST LINE UP WITH EXISTING CURB, DUCTS, ETC. FIELD MEASURE AND VERIFY PRIOR TO SUBMITTALS.
- 4. PROVIDE WITH FACTORY INSTALLED VARIABLE FREQUENCY DRIVE AND DISCONNECT

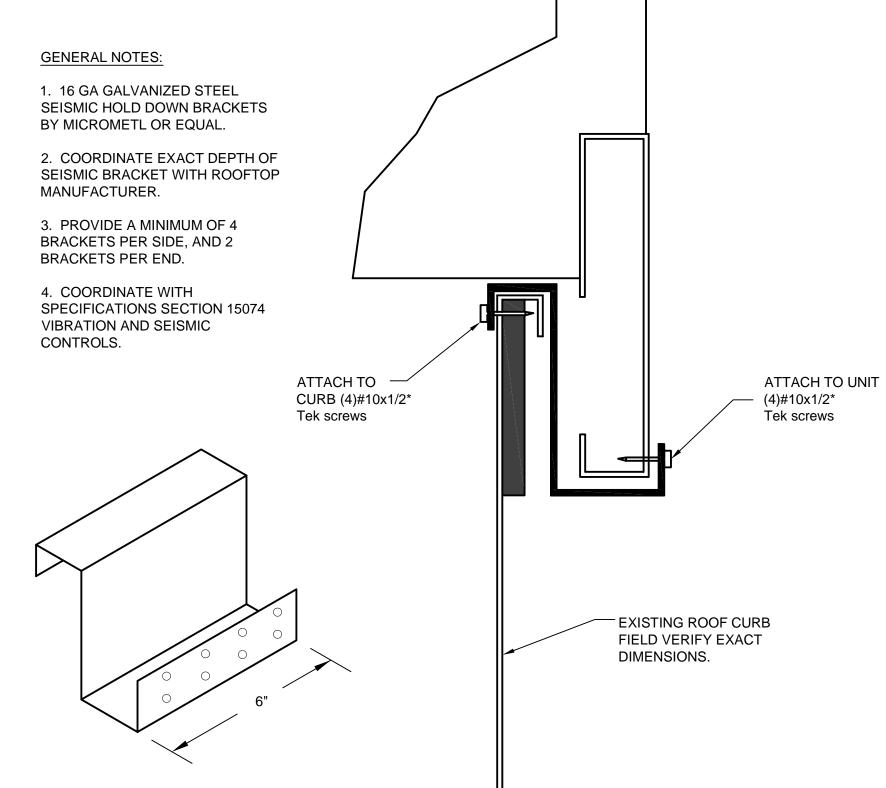


EXISTING



EXISTING





ROOFTOP UNIT SEISMIC BRACKET DETAIL

State of Utah Department of Administrative Services

Division of Facilities
Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018

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MARK DATE **REVISION**

PROJECT MANAGER: WP DRAWN BY: STAFF CHECKED BY: SLW

10/02/2007 || WHW JOB NO.: 07035

MECHANICAL SCHEDULES

ME601

CAFETERIA ROOFTOP **DUAL DUCT CONDITIONER DETAIL** SCALE: NONE